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ACCESSION NUMBER: 2001-015500 JAPIC  
TITLE: LOW-DENSITY FILM, MANUFACTURE THEREOF INSULATING FILM,  
AND SEMICONDUCTOR DEVICE  
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PATENT INFORMATION:

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#### APPLICATION INFORMATION

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#### ABSTRACT:

PROBLEM TO BE SOLVED: To improve the balance between the dielectric constant and mechanical strength of an interlayer insulating film used in a semiconductor element, etc., by irradiating a film containing a compound which is compatibilized or dispersed in a siloxane compound component and having a boiling point or decomposition temperature which falls within a specific range with an electron beam.

SOLUTION: A film containing a compound which is compatibilized or dispersed in a compound, such as the polyoxyethylene alkylether, polyoxyethylene alkylphenylether, polyoxyethylene steroether, polyoxyethylene lanolin derivative, etc., having a polyalylene oxide structure, a component such as the (meta) acrylate-based polymer, polyester, polycarbonate, polyanhydride, etc., and has a boiling point or decomposition temperature of 250-450°C is formed on a substrate. Then the film is irradiated with an electron beam. Thus, the balance between

the dielectric constant and mechanical strength of an interlayer insulating film used in a semiconductor element, etc., can be improved.

APPENDIX: 1. 1,1